PROGRAM FOR ARTERIAL SYSTEM SYNCHRONIZATION (PASS) FY13/14 CYCLE

Veterans Boulevard Signal Timing Project

City of Redwood City | Caltrans | Metropolitan Transportation Commission

PROJECT OVERVIEW

The City of Redwood City in conjunction with Caltrans received a grant from Metropolitan Transportation Commission's Program for Arterial System Synchronization (PASS) to conduct a signal timing study for a total of nine traffic signals along Veterans Boulevard. Eight of the nine traffic signals along Veterans Boulevard are City-owned and operated. The traffic signal located at the Veterans Boulevard/Woodside Road intersection is operated and maintained by Caltrans. Veterans Boulevard provides connection to/from US 101 at Whipple Avenue to the north and at Woodside Road (SR 84) at the south end.

The goal of this project is to facilitate traffic progression along Veterans Boulevard, and update the timing parameters to comply with recent changes in the California MUTCD traffic signal timing guidelines. The pedestrian clearance timing for the Veterans Boulevard/Maple Avenue intersection was updated to accommodate slower walking speeds due to the location of a senior care facility in the vicinity of the intersection.

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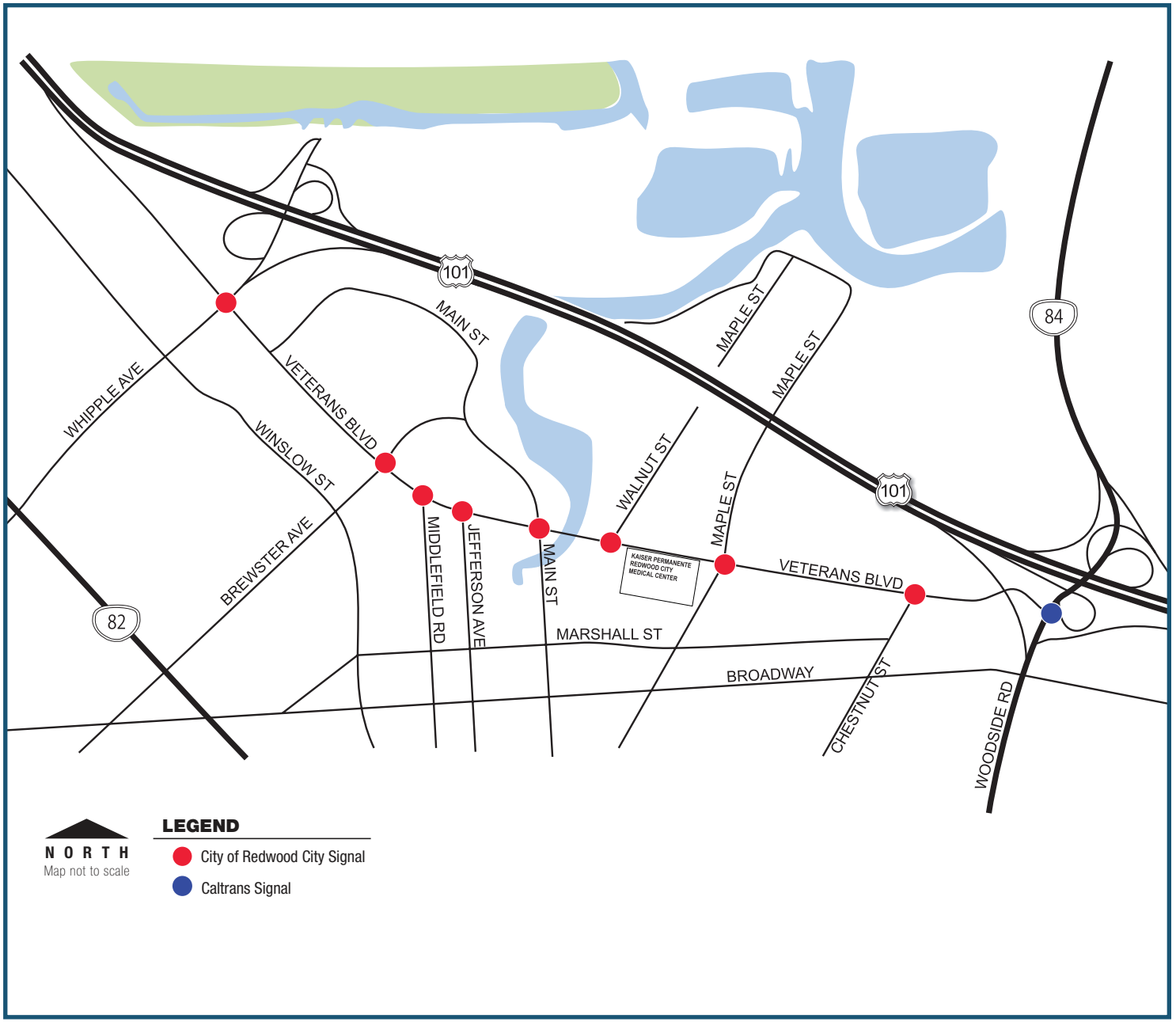


Project Overview (continued)

The PASS project involved the completion of the following tasks: collecting traffic volumes and turning movement counts including bike and pedestrian counts at project intersections; analyzing traffic data to develop optimized signal timing plans, implementing and fine-tuning the plans in the field; and conducting travel time surveys to analyze the performance measures of the new timing plans.

Benefits to Various Modes

Benefits to Bicyclists: Per the new California MUTCD, the minimum green time was increased for the through movements at each study intersection to enhance safety for bicyclists traveling along the Veterans Boulevard corridor.

Benefits to Pedestrians: Pedestrian timing parameters were adjusted to provide adequate time for children and seniors to safely cross the study intersections.

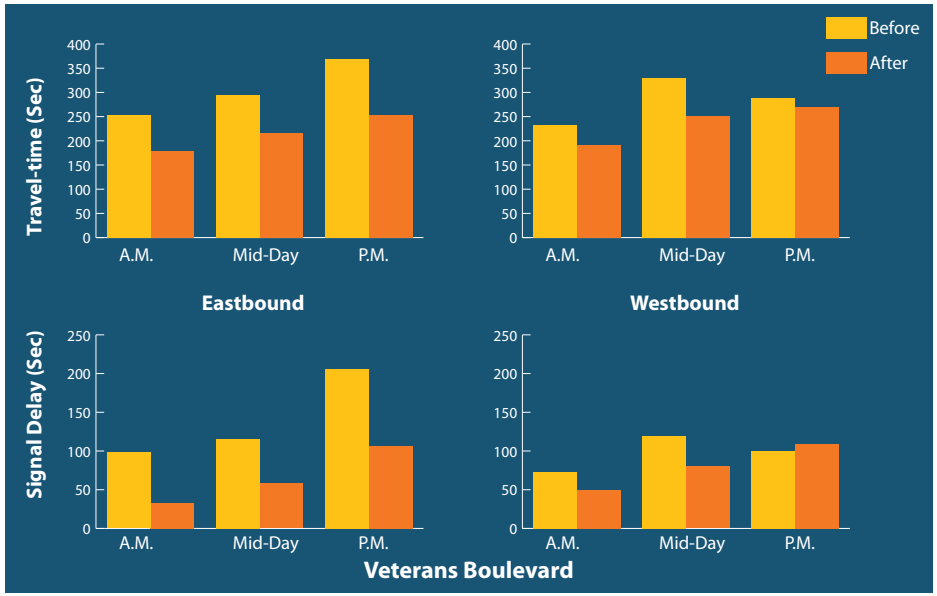
Benefits to Traffic Safety: To enhance traffic safety, the yellow clearance timing parameters were reviewed. The all red clearance timing parameters were updated based on the results of a collision analysis.

Project Costs	
Consultant Costs (Weekday Coordination Timing Plans)	$24,300
Consultant Costs (Additional Plans, TSP, IM Flush Plans, etc.)	$5,570
Other Project Costs (cabinet and controller equipment)	$0
Agency Staff Costs (Estimate)	$6,075
Total Costs	**$35,945**

Project Benefits

Measures	*First Year Average*		*Lifetime (5 Years)*	
	Savings	*Monetized Savings*	*Savings*	*Monetized Savings*
Travel Time Savings	29,975 hrs.	$584,979	80,411 hrs.	$1,569,240
Fuel Consumption Savings	106,806 gal.	$412,184	286,514 gal.	$1,105,707
ROG Emissions Reduction	0.36 tons	$450	0.96 tons	$1,206
NOx Emissions Reduction	0.24 tons	$4,345	0.65 tons	$11,656
PM2.5 Emissions Reduction	0.01 tons	$3,687	0.03 tons	$9,891
CO Emissions Reduction	3.07 tons	$237	8.22 tons	$636
		Total Lifetime Benefits		**$2,698,335**

Overall Project Benefits	**Auto**
Average Decrease in Travel Time	**23%**
Average Speed Increase	**31%**
Average Fuel Savings	**18%**
Average Reduction in Signal Delay	**37%**
Average Reduction in Number of Stops	**21%**
Overall Benefit-Cost Ratio	**89:1**



Project Benefits Summary

Average Reduction in Auto Signal Delay: 37%

Average Reduction in Number of Stops: 21%

Auto Fuel Consumption Savings: 18% or 286,514 gallons

Total Emissions Reduced (ROG, NOx, PM2.5, CO): 9.86 tons

Auto Travel Time Savings: 23% or 80,411 hours

Overall Project Benefit-cost Ratio = 89:1

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